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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CUMMING, WILLIAM D

ART UNIT PAPER NUMBER

2617

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/822,316

Applicant(s)

MARK D. AUSTIN

Examiner

WILLIAM D. CUMMING

Art Unit

2617

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/31/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10, 11 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 11, and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

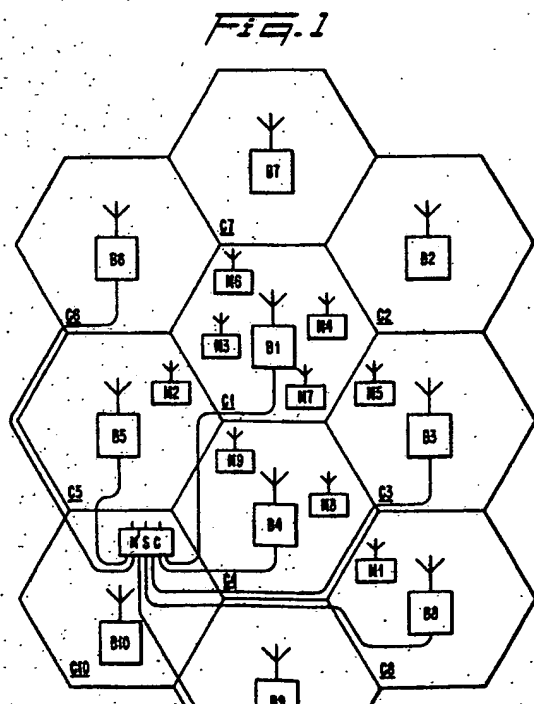
3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-8, 10, 11, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bodin, et al** in view of **Li, et al**.

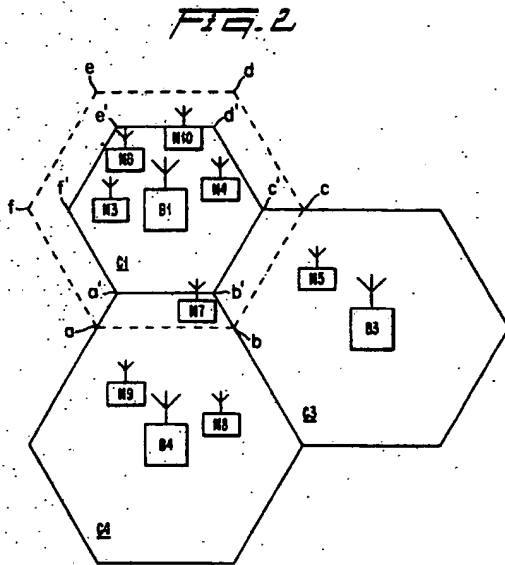
Bodin, et al disclose a method effecting a handoff in a cellular network (figure 1) comprising the steps of monitoring a set of frequencies listed in a mobile assisted handoff ("In FIG. 3A, the entering signal strength threshold of cell C4 in the direction of cell C4 is represented by the value "a" which is depicted by an arrow representing the difference between SS4-SS1. FIG. 3 illustrates an example of a method for dynamically varying the handoff thresholds in accordance with the present invention. In FIG. 3A, when a mobile station, which is pictorially represented as an automobile, moves from base station B1 to B4, a handoff is considered once the measured signal strength drops below the staying or SSH threshold, and the handoff is granted when $SS4-SS1 \geq a$. In other words, the handoff from cell C1 to cell C4 is delayed until the signal strength

measured at base station B4 is greater than the signal strength measured at base station B1, as indicated by the value "a". The measurements may alternatively be performed downlink in the mobile if mobile-assisted handoff is available.")

Logically ordering the frequencies based on their relative signal strengths ("Each cell is always equipped with a signal



strength receiver which consists of a receiver and a control unit. The signal strength receiver is typically the same design as the receiver used for each voice channel. The signal strength receiver in each cell performs cyclical measurements, sampling the radio frequencies received from the mobile stations. All the system frequencies may be sampled but only the voice channel frequencies allocated to mobile stations in the neighboring cells are of interest for handoff. The information about which channel should be taken under consideration, during the above-mentioned sampling is originally received from the MSC. The measurement results are updated, in the control unit as a mean value after each cyclic sampling. In this way each cell knows what the signal strength with any mobile station currently using a neighbor's voice channel would be if the cell in question would have to take over the transmission. If a handoff has been requested by a cell, the MSC will ask the neighboring cell to send the measurement results of the signal strength from the mobile station." And "The signal strength results are always available in each cell. On request they will be provided to the MSC which looks for the best result. When the measured signal strength satisfies the dynamically variable entering threshold, the MSC can then determine the target cell for handoff. When the cell is determined, the MSC looks for an idle voice channel in the cell. If all the voice channels are busy at the moment, the next best cell is taken providing that it also fulfills the criteria. When the voice channel has been selected an order to start the transmitter in the base station is issued to the new cell. Then an order to the mobile station for turning to the selected voice channel is sent. The base station in the new cell and the mobile station can then communicate with one another.")



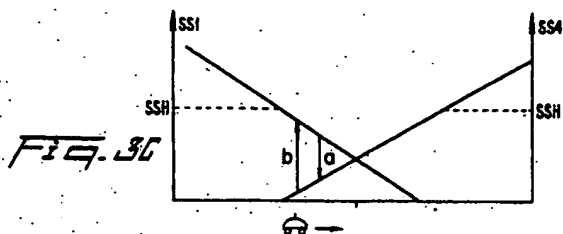
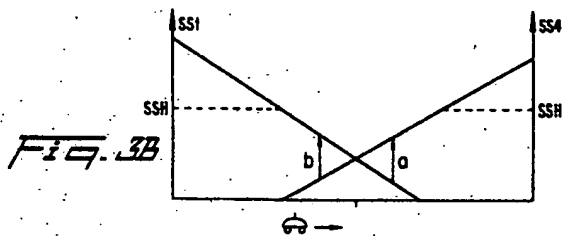
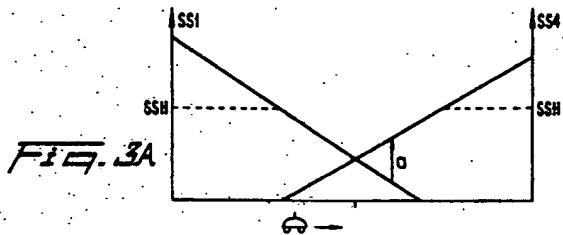
Identify in the logically ordered set of frequency those frequencies having a signal strength higher ("According to the present invention as illustrated in FIG. 2, a voice channel in cell C1 may be vacated and access can be given to the mobile station M10 by reducing the size of cell C1. By dynamically varying the entering thresholds of cells C1 and C4, the sizes of cells C1 and C4

are decreased and increased respectively. The SSH threshold (the staying threshold) is an absolute value. It is only used to limit the amount of handoff processing. It is of no importance functionally since it is always above the absolute values associated with the entering thresholds. The mobile station M7 formerly at the periphery of cell C1 now lies within the expanded area of cell C4 and can be handed off by the normal handoff routine. Typically in the prior art, the entering thresholds between cell C1 and its six neighboring cells C2-C7 are the same and a handoff usually occurs when the signal strength satisfies the entering threshold. In the present invention, however, the entering thresholds between cell C1 and each cell C2-C7 may be different and the mobile station is not handed off until the entering threshold is exceeded as hereinafter explained. Moreover, in the prior art the entering threshold for a mobile station entering cell C1 from cell C2 (in FIG. 1) would typically be the same as the entering threshold of a mobile station entering from cell C4. In the present invention, however, there is an

entering threshold for mobile stations entering cell C1 from cell C2, and this entering threshold may be different from the entering threshold for mobile stations entering cell C1 from cell C4."

Associating a cellular site with at least each frequency in the set of frequencies ("The signal strength results are always available in each cell. On request they will be

provided to the MSC which looks for the best result. When the measured signal strength satisfies the dynamically variable entering threshold, the MSC can then determine the target cell for handoff. When the cell is determined, the MSC looks for an idle voice channel in the cell. If all the voice channels are busy at the moment, the next best cell is taken providing that it also fulfills the criteria. When the voice channel has been selected an order to start the transmitter in the base station is issued to the new cell. Then an order to the mobile station for turning to the selected voice

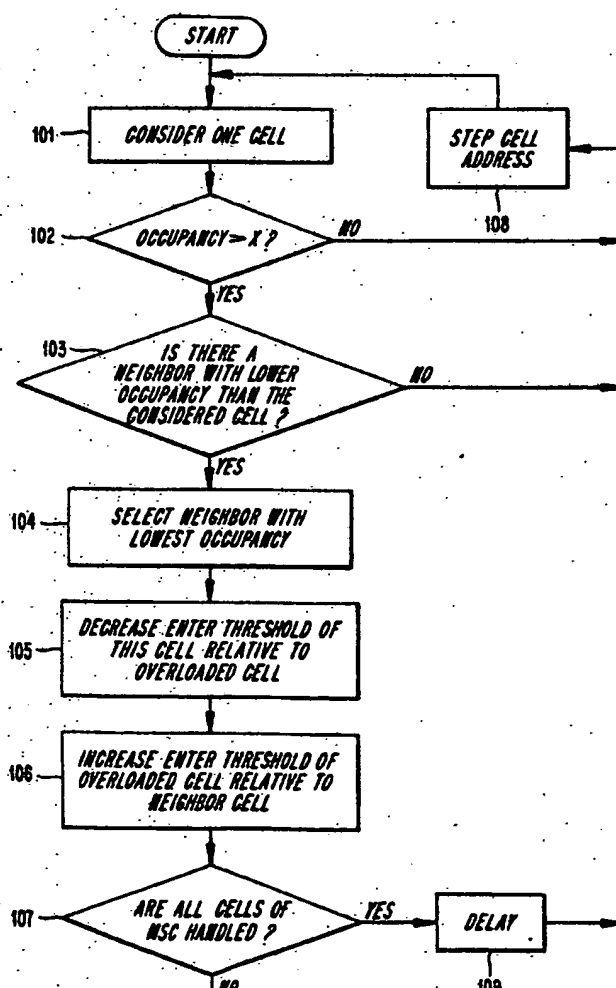


channel is sent. The base station in the new cell and the mobile station can then communicate with one another."

Determining a level of traffic at each cellular site ("According to the present invention, it is possible to decrease the enter threshold of all neighbors C2 . . . C7 relative to cell C1 and to increase the enter thresholds of cell C1 relative to all its neighbors, thus maintaining the base station of cell C1 in the middle of this cell. However, according to the invention, it is alternatively possible to consider the traffic occupation level of the cells C2 . . . C7. If, e.g., the cell C4 has a comparatively low traffic occupation level, the enter threshold is lowered only for this cell C4 relative to cell C1 and the enter threshold rises only for cell C1 relative to cell C4. In this case the base station B4 of cell C4 will not be in the center of its cell anymore. It is even conceivable that a cell is reduced in size on one side and increased in size on the opposite side,

thus displacing the cell towards a region of higher traffic, in order to help carry that traffic.").

Selecting a cellular site for handoff based at least in part on signal and in part the level of traffic ("One advantage of this method is the fact that no handoff order needs to be given to any mobiles as a result of heavy traffic in certain cells, but the conditions for handoff are



changed such that normal handoff activity will redistribute traffic more evenly.").

Boldin, et al does not disclose determining known load patterns for each cellular site includes accessing stored known load patterns for each cellular site.

Li, et al teaches the use of determining known load patterns for each cellular site includes accessing stored known load patterns for each cellular site (figures 1A-2F) for the purpose of adjusting handoffs criteria. Hence, it would have been obvious for one ordinary skill in the art at the time the claimed invention was made to incorporate the use of determining known load patterns for each cellular site includes accessing stored known load patterns for each cellular site, as taught by **Li, et al**, for the purpose of adjusting handoffs criteria, in the method of effecting handoff in a cellular network of **Boldin, et al** in order select a cellular site for handoff is based on part on expected load of each cellular site.

Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. However, examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are:

(A) "adapted to" or "adapted for" clauses;

(B) "wherein" clauses; and

(C) "whereby" clauses.

The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court held that when a "'whereby' clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention." *Id.* However, the court noted (quoting *Minton v. Nat'l Ass'n of Securities Dealers, Inc.*, 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a *"whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited."* *Id.*

Regarding claim 33, **Bodin, et al** disclose all subject matter, except for ordering the frequencies from highest to lowest signal strength. The examiner takes Official Notice that ordering the frequencies from highest to lowest signal strength is an decade old and well known in the art in methods of effecting handoff. The examiner cites **Balachandran** as evidence as such. Clearly applicants did not invent this. Hence, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the old and well know use of ordering the frequencies from highest to lowest signal strength in the method of effecting a handoff in a cellular network in order to pick the frequencies or channels with the strongest signal.

Applicants' attorney DID NOT traverse the Official notice state in the last Office action. To adequately traverse such a finding, an applicants' attorney must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b). See also Chevenard, 139 F.2d at 713, 60 USPQ at 241 (*"[I]n the absence of any demand by appellant for the examiner to produce authority for his statement, we will not consider this contention."*). A general allegation that the claims define a patentable invention without any reference to the examiner's assertion of official notice would be inadequate. If applicants adequately traverse the examiner's assertion of official notice, the examiner must provide documentary evidence if the rejection is to be maintained. See 37 CFR 1.104(c)(2). See also Zurko, 258 F.3d at 1386, 59 USPQ2d at 1697 (*"[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings"* to satisfy the substantial evidence test). If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2). If applicants do not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate.

Applicants' attorney's any future traversal is inadequate because:

{a} It was not timely. Applicants' attorney willfully did not traverse the Official notice in the next response (November 28, 2005) and did not seasonably challenge. *In re Selmi*, 70 USPQ 197; *In re Fischer* 52 USPQ 473; *In re Boon*, 169 USPQ 231.

{b} Applicants' attorney failed why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b). See also *Chevenard*, 139 F.2d at 713, 60 USPQ at 241.

{c} The examiner did provide documentary evidence.

Response to Arguments

5. Applicant's arguments filed August 31, 2006 have been fully considered but they are not persuasive.

During examination before the Patent and Trademark Office, claims must be given their broadest reasonable interpretation and limitations from the specification may not be imputed to the claims (*Ex parte Akamatsu*, 22 USPQ2d, 1918; *In re Zletz*, 13 USPQ2d 1320, *In re Priest*, 199 USPQ 11).

Clear inference to the artisan must be considered, *In re Preda*, 159 USPQ 342. A prior art reference must be considered together with the knowledge of one of ordinary skill in the pertinent art, *In re Samour*, 197 USPQ 1. During patent examination, the pending claims must be "*given the broadest reasonable interpretation consistent with the specification.*" Claim term is not limited to single embodiment disclosed in specification, since number of embodiments disclosed

does not determine meaning of the claim term, and applicant cannot overcome "heavy presumption" that term takes on its ordinary meaning simply by pointing to preferred embodiment (Teleflex Inc. v. Ficosa North America Corp., CA FC, 6/21/02, 63 USPQ2d 1374). Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA1969).

First, the so called critical limitation is states with "wherein", the claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure.

Bolin, et al is selecting a cellular site for handoff is very much based in part on expected load at each cellular site. **Bolin, et al** clearly discloses, *"By dynamically varying (increasing) the entering threshold of the cell C1, mobile station M7 is not affected immediately, but the traffic in cell C1 is decreased after a time, because fewer mobiles are handed off from cell C4 to cell C1."*

Li, et al also states, *"For example, in one configuration, the LSA operation and maintenance entities in the base station controller 530 and/or Service management node 570 may need to be updated to include threshold testing,*

decision making, interworking with cell configuration handling parts, and if needed, initiation forced handover."

Hence, both references disclose and teach selecting a cellular site for handoff is based **in part** on expected load at each cellular site.

In view of the foregoing remarks and amendments by Applicants, the Examiner submit that the above identified application is **NOT** in condition for allowance.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

7. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


8. If applicants request an interview after this final rejection, prior to the interview, the intended purpose and content of the interview should be presented briefly, in writing. Such an interview may be granted if the examiner is convinced that disposal or clarification for appeal may be accomplished with only nominal further consideration. Interviews merely to restate arguments of record or to discuss new limitations which would require more than nominal reconsideration or new search will be denied.

9. If applicants wish to request for an interview, an *"Applicant Initiated Interview Request"* form (PTOL-413A) should be submitted to the examiner prior to the interview in order to permit the examiner to prepare in advance for the interview and to focus on the issues to be discussed. This form should identify the participants of the interview, the proposed date of the interview, whether the interview will be personal, telephonic, or video conference, and should include a brief description of the issues to be discussed. A copy of the completed *"Applicant Initiated Interview Request"* form should be attached to the Interview Summary form, PTOL-413 at the completion of the interview and a copy should be given to applicant or applicant's representative.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM D. CUMMING whose telephone number is 571-272-7861. The examiner can normally be reached on Monday-Thursday 11am-8:30pm.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on 571-272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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